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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/944,495	08/31/2001	Yuri Kazakevich	00167-376001	2636

7590

03/28/2003

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EXAMINER

CRANE, SARA W

ART UNIT

PAPER NUMBER

2811

DATE MAILED: 03/28/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

<b>Office Action Summary</b>	Application No.	Applicant(s)	
	09/944,495	KAZAKEVICH, YURI	
	Examiner	Art Unit	
	Sara W. Crane	2811	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 27 December 2002.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-57 is/are pending in the application.
- 4a) Of the above claim(s) 1-31 is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 32-47 and 51-57 is/are rejected.
- 7) ☒ Claim(s) 48-50 is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on \_\_\_\_\_ is: a) ☐ approved b) ☐ disapproved by the Examiner.  
If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

**Priority under 35 U.S.C. §§ 119 and 120**

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).  
a) ☐ All b) ☐ Some \* c) ☐ None of:  
1. ☐ Certified copies of the priority documents have been received.  
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.  
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).  
\* See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).  
a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

**Attachment(s)**

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)                                | 4) <input type="checkbox"/> Interview Summary (PTO-413) Paper No(s). _____  |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                       | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449) Paper No(s) <u>4</u> | 6) <input type="checkbox"/> Other:  |

**DETAILED ACTION**

***Election/Restrictions***

Claims 1-31 withdrawn from further consideration pursuant to 37 CFR 1.142(b) as being drawn to a nonelected species, there being no allowable generic or linking claim. Election was made without traverse in Paper No. 6.

***Claim Rejections - 35 USC § 112***

Claim 40 is rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

In claim 40, "each semiconductor light source" is not clear. Claim 39 recites only one such light source.

***Allowable Subject Matter***

Claims 48-50 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims. The configuration of claim 48 is not taught or suggested in the prior art.

***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

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(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 32-37, 43-44, 46-47 and 51-52 are rejected under 35 U.S.C. 103(a) as being unpatentable over Fontenot et al. in view of Lys et al.

With respect to claims 32-34 and 36, Fontenot et al. teaches an optical system for providing light to an endoscope, including an optical element (a fiber) as shown in figure 1, which has an input for receiving emitted light (from 42 in figure 12), an output for receiving light from the optical element (emitting segment in figure 1), with the output configured to be received by the endoscope (figure 12). The light source is an infrared laser diode (column 5, line 47), which is a type of semiconductor light source (a light emitting diode). Alternatively, Lys et al. teaches at column 1, lines 40-51, the known types of light emitting diodes, all of which incorporate semiconductor material, and notes the advantages of such a light source (energy efficient, give off virtually no heat, and have a long lifetime). The advantages motivate the use of a semiconductor light source for the Fontenot light source. With respect to claim 35, figure 11 of Fontenot et al. shows a light guide. With respect to claim 37, Lys et al. teaches to use LEDs of the three primary colors (column 1, lines 66-67), in order to obtain output of any desired color. It would have been obvious to do the same for the Fontenot light source. With respect to claims 43-44, Lys et al. figure 6 shows multiple LED outputs, and column 1, lines 66-67 explains that the multiple colors are mixed. With respect to claims 46-47, a laser diode with a vertical cavity would have been obvious to obtain the vertical light output associated with such a device. With respect to claims 51-52, the elements

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recited are well-known for attaching optical fiber to an optical device, and would have been obvious for this purpose.

Claim 38 is rejected under 35 U.S.C. 103(a) as being unpatentable over the references as applied to claims 32-37 above, and further in view of Ozawa et al. and Ganz.

Ozawa et al. provides a motivation for incorporating a UV light source in an endoscope arrangement (to excite tissue to fluoresce, column 5, lines 46-47). Ganz provides an alternate motivation (to kill germs, column 1, line 18).

Claims 39-41 are rejected under 35 U.S.C. 103(a) as being unpatentable over the references as applied to claims 32-38 above, and further in view of Shaddock.

It would have been obvious to include a phosphor layer within a light emitting diode light source, for the reason noted at column 5, lines 15-17 (to optimize the color output).

Claim 42 are rejected under 35 U.S.C. 103(a) as being unpatentable over the references as applied to claims 32-41 above, and further in view of Neuberger.

A "light concentrator" to reflect light into a fiber would have been obvious as taught by Neuberger, where figure 3 of Neuberger shows element 52, for example, which reflects light and helps to concentrate the light output.

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Claim 45 is rejected under 35 U.S.C. 103(a) as being unpatentable over the references as applied to claims 32-44 above, and further in view of Sheldon.

A yellow light source would have been obvious for the reason noted by Sheldon at column 13, lines 65-68 (to allow multiple colored images to blend in the viewers eye, without the use of color filters.

Claims 53-57 are rejected under 35 U.S.C. 103(a) as being unpatentable over the references as applied to claims 32-38 above, and further in view of Li et al.

With respect to claim 53, an array of lenses as taught by Li et al. in figure 2A, for example, would have been obvious to provide for enhanced optical coupling in an endoscope application, as noted in the abstract. With respect to claim 54, Fontenot et al. teaches at figure 6 to couple more than one light source into more than one fiber. Optical alignment as recited in claim 55 would have been obvious to optimize light coupling. With respect to claims 56-57, focusing lenses for light collimation would have been obvious to provide a well defined light beam.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to S. Crane, whose telephone number is (703) 308-4894.

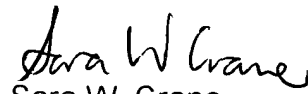
The fax phone number for this Group is (703) 308-7722.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the Group receptionist, whose telephone number is (703) 308-0956.

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A handwritten signature in black ink, appearing to read "Sara W. Crane". The signature is written in a cursive, flowing style.

Sara W. Crane  
Primary Examiner  
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